

REMARKS

Rejection of the Claims Under 35 U.S.C. §112, second paragraph

(The numbering of issues corresponds to the numbering in the Office Action.)

1) One of ordinary skill in the art readily understands that replacing a C atom with an N atom means that any unaccounted for bonds are to hydrogen atoms. The rejected terminology is common in the chemical arts. See, for example, claim 9 of US 6,335,438; and claim 1 of US 6,268,380 (copies not attached).

2) The Examiner alleges that the term “tertiary phosphane” is still indefinite, even after applicants provided a dictionary definition. Applicants respectfully disagree. One of ordinary skill in the art based on the definition provided understands the scope of the term. The alleged insufficiency of the provided definition is not understood and has no basis. The definition is clear in that the term phosphane means PH_3 , diphosphane means P_2H_4 , triphosphane means P_3H_5 , etc. The term tertiary has a common and well-understood meaning in the chemical arts and means that three hydrogen atoms bonded to a single central atom are replaced. Other possible meanings suggested by the Examiner have no basis. Additionally, it is not necessary to list the possible substituents to make this term clear and definite. One of ordinary skill in the art readily recognizes a tertiary phosphane group regardless of whether the groups replacing the hydrogen atoms are aryl rings, alkyl chains, halogen atoms, hydroxy groups, etc., or any combination of a variety of groups. The identity of the substituents does not alter the status of the structure as a tertiary phosphane, which is readily understood by one of ordinary skill in the art.

Moreover, there is no indication in the present specification that applicants do not intend to include all substitutions. To the extent the Office Action is concerned about the breadth of the claim, it is submitted that this is irrelevant. This issue has long been decided in *In re Marzocchi*, 169 USPQ 367 (CCPA 1971). Relevant language from the decision follows.

Turning specifically to the objections noted by the board as indicated above, it appears that these comments indicate nothing more than a concern over the *breadth* of the disputed term. If we are correct, then the relevance of this concern escapes us. It has never been contended that appellants, when they included the disputed term in their specification, intended only to indicate a single compound. Accepting, therefore, that the term is a generic one, its recitation must be taken as an assertion by appellants that all of the "considerable number of compounds" which are included within the generic term would, as a class, be operative to produce the asserted enhancement of adhesion characteristics. The only relevant concern of the Patent Office under these circumstances should be over the *truth* of any such assertion. The first paragraph of § 112 requires nothing more than objective enablement. How such a teaching is set forth, either by the use of illustrative examples or by broad terminology, is of no importance.

Additionally, even if the broad claim includes inoperative embodiments, such is not problematic because one of ordinary skill in the art would know. This issue has long been decided in *In re Sarett*, 140 USPQ 474 (CCPA 1964) and *In re Smythe*, 178 USPQ 286 (CCPA 1973).

Relevant language from *Smythe* follows.

The use here of any particular "liquids" which would be inoperative, such as the examples given by the board—"colored materials," materials "adherent to the walls of the sight tube," and "liquid wetting agents"—would be predictably inoperative in the invention and thus would never be selected by one skilled in the art. As we have said before, it is almost always possible to so construe a claim as to have it read on inoperative embodiments, but the alternative of requiring an applicant to be so specific in his claims "as to exclude materials known to be inoperative and [which] even those *not* skilled in the art would not try" would result in claims which would fail to comply with 35 U.S.C. 112, second paragraph, because they would be so detailed as to obscure, rather than to particularly point out and distinctly claim, the invention. We therefore cannot agree with the board that the rejection under the first paragraph of § 112 is any more sustainable because the broader term "fluid" includes some "liquids" which might not work.

Relevant language from *Sarett* follows.

the mere *possibility* of inclusion of inoperative substances does not prevent *allowance* of broad claims.

...

It is certainly not incumbent on an applicant who has made a broad ... invention and supported it by an adequately broad disclosure to demonstrate the operativeness of every substance falling within the scope of the broad claims to which he is entitled. ... The function of claims is to *point out* the invention and *define* the scope of the monopoly, not to exclude substances which are possibly of no use in practicing the invention.

Many cases since addresses the same issue and decided in accord with the above cases. See, for example, *In re Myers*, 161 USPQ 668 (CCPA 1969), (If every element in a mechanical combination claim were required to be so specific as to exclude materials known to be inoperative and which even those *not* skilled in the art would not try, the claims would fail to comply with 35 U.S.C. 112 [second paragraph] because they would be so detailed as to obscure, rather than [to] particularly point out and distinctly claim, the invention.); *Horton v. Stevens*, 1 USPQ2d 1245 (BPAI 1988) (The mere fact that a claim embraces undisclosed or inoperative species or embodiments does not necessarily render it unduly broad.); *In re Dinh-Nguyen*, 181 USPQ 46 (CCPA 1974) (It is not a function of the *claims* to specifically exclude either possible inoperative substances or ineffective reactant proportions.); *In re Anderson*, 176 USPQ 331 (CCPA 1973) (No one of ordinary skill in the art would use any other kind of medicament and there is no practical way to restrict the claim language so as to exclude all inoperative or deleterious medicaments other than by the addition of such redundant terms as "suitable" or "operative for the purposes described."); and *In re Kamal*, 158 USPQ 320 (CCPA 1968) (The mere possibility of inclusion of inoperative substances, if, indeed, operability is properly questionable under 35 U.S.C. 112, does not prevent allowance of broad claims.).

3) The Examiner also alleges that the term "tertiary phosphine" is indefinite, even after applicants provided a dictionary definition for that term as well. The alleged shortcoming of the definition is that the substituents are not specified. Even if such were true, the reasoning from above applies; but here, the definition states that the substituents are hydrocarbyl groups.

Examiner alleges that the same issue arises with respect to tertiary amine groups. Here as well, the identity of the substituents is not needed to avoid

indefiniteness.

4) The Office Action alleges that it is unclear how the diphosphine radical in the definition of R41 in claim 18 attaches to the rest of the compound. Applicants respectfully disagree. The claim recites that attachment from the CO of the compound of formula XLIII is “direct to a carbon or nitrogen atom of the diphosphine skeleton, or to an oxygen or nitrogen atom or to a carbon atom of a bridging group of the diphosphine skeleton.”

A spelling error is corrected in claim 18.

5) Applicants are not clear on what is unclear in claim 19. Nevertheless, to further clarify the claim they have amended the same.

Applicants also note that choice (iii) did not recite amino-phosphine moiety not encompassed in the formula. Instead, the amine group is associated with a bidentate ligand. Applicants believe that the language “a bidentate ligand with a tertiary amine group” was clear.

6) The Office Action alleges that despite the structures already provided to illustrate the meaning of the term “tertiary phosphino imines,” such remains unclear. Applicants respectfully disagree. The examples provided illustrate that an imine group is present in at least one of the substituents of a tertiary phosphane group. In other words, an imine group, i.e., a carbon to nitrogen double bond, appears somewhere in a substituent on a P atom having three substituents that are each other than hydrogen. No direct bonding of the imine group to the P is required as can be seen from the exemplary structures, but nor is there any limitation on bonding of the P atom to any atom of a given substituent.

The Office Action alleges that if applicants cannot provide a generic structure, the term must be deemed unclear. Providing a general structure as requested by the Examiner is not needed to further clarify the definition, but such a generic structure could easily be made. For example, PR_3 , wherein each R is a substituent that may be

the same or different, and at least one of the R groups contains a carbon to nitrogen double bond.

- 7) Claim 11 is amended as suggested.
- 8) There is no need to specifically define the structure of a bridging group in claim 17. Any group that connects, i.e., is present between, the one or more water-solubilising polar substituents and the substituents of the phosphine group is a bridging group. One of ordinary skill in the art can easily and clearly recognize the presence of a group between the noted groups above, and thus, can readily understand that such group is a bridging group.
- 9) The typing errors in claims 35 and 37 are corrected.

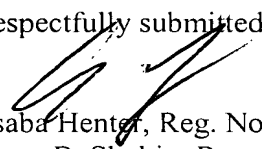
The term “derivative” is not indefinite in the claims. Nevertheless, applicants amend the claims to not use the allegedly indefinite term.

Pterin and pterin derivatives are well known in the art. Numerous synthetic and naturally occurring pterin and pterin derivatives exist. See page 1, lines 19-20. Additionally, the specification throughout teaches numerous pterin derivatives by generic formulae and by also species names. Thus, one of ordinary skill in the art has clear guidance from the specification what the scope of the term is intended to be. Thus, further defining the term “derivatives” with more specificity is not necessary to convey to one of ordinary skill in the art the intended scope of the term.

As discussed above, it is not a problem that the claim may be broad. Nor is it fatal to a claim that it may contain inoperable embodiments. “The function of claims is to *point out* the invention and *define* the scope of the monopoly, not to exclude substances which are possibly of no use in practicing the invention.” See *Sarett*, id. One of ordinary skill in the art can easily determine what pterin compounds or derivatives are useful in the claimed invention; and thus, no indefiniteness or possible enablement issue is present.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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